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There Be Dragons

The DARPA Tactical Technology Office (TTO) is acutely aware that we are a nation at war. This is most clearly seen in our rapid reaction projects, but it is implicit in all TTO projects. Through Boomerang and other programs like it, we're continuously looking for ways to accelerate emerging technologies into the hands of the warfighter in the field; not sometime in the distant future, but today and tomorrow, to make a difference in the current fight.

TTO's focus is not just on the near term. Our focus is on revolution, not evolution: We're creating entirely new paradigms, we're not just making changes at the margins. We're focused on systems, those critical enablers that can significantly change the nature of warfare.

For that reason, looking at the likely points of conflict our forces face, we're also focused on the future of urban warfare:

- Robotics, to use machines to help Soldiers avoid the most dirty and dangerous aspects of the urban fight
- Integrated support for the dismounted Soldier, especially our Special Operations Forces
- Emerging nonlethal weapon system integration concepts
- Novel capabilities for force protection, including those that make use of directed energy systems
- Emerging capabilities to address the asymmetric threat, to detect and counter improvised explosive devices (IEDs), car

bombs, and suicide bombers and to detect and counter nuclear and radiological threats

Each of these capabilities is in its own way a means to transform our urban combat capability, to give a decisive edge to the US warfighter and to maintain that edge into the future.

Building to the big picture, urban warfare is itself just one of our areas of interest in TTO. We are also exploring tactical force multipliers across the full spectrum of combat; working unmanned capabilities, air and ground, armed and unarmed, large and small; and working space.

TTO programs run the gamut. We do much in some more specific areas, such as our weapons work: persistent unmanned air vehicle (UAV)/missile hybrids like Long Gun; hypersonic missiles like HyFly (Hypersonic Flight Demonstration); our work on electromagnetic guns and our concept for a novel Multi-Modal Man-Portable missile. We are working in the area of ground robotics, like UPI (Unmanned Combat Ground Vehicle – PerceptOR Integration), a program to bring operational and navigational intelligence to a capable unmanned combat vehicle, and other programs, from turbine engines the size of a dime to hybrid electric tactical vehicles that are preparing for demonstration in Iraq.

That's quite a range of projects under one roof. There's a lot going on at TTO. What links all our efforts in TTO is that we're focused on large-scale systems, introducing high-risk high-payoff technologies and delivering game-changing benefits to the warfighter.

Whether it's the frontier of flight, making a speed-of-light weapon, or supporting in any number of

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ways our warfighters in the Global War on Terror, we're taking capabilities and building systems. We're taking the future and making it real. We're moving from the known world to those white spaces on the map, where "there be dragons."

As an idea-driven organization, we know ideas don't come from the process. Ideas come from people. People like you. We've got several open solicitations, both program specific broad area

announcements (BAAs) and an office-wide BAA designed to provide a mechanism to receive, review, and fund the most promising new DARPA-like ideas. We want to move fast and we're ready to move fast, so bring us your ideas. Help us explore the unknown. Help us discover the uncharted advances that will give our warfighters the advantage they need in any fight they face.